ARKANSAS DEPARTMENT OF EDUCATION RULES GOVERNING THE PUBLIC SCHOOL RATING SYSTEM ON ANNUAL SCHOOL REPORT CARDS (EMERGENCY RULE) – Effective March 18, 2016

1.1 REGULATORY AUTHORITY

1.2 These rules shall be known as the Arkansas Department of Education Rules Governing The Public School Rating System On Annual School Report Cards ("Rules").

1.3 The Rules are enacted pursuant to the State Board of Education's authority under Ark. Code Ann. §§ 6-11-105, 6-15-2105, 6-15-2106, and 25-15-201 *et seq.*

2.00 PURPOSE

The purpose of these Rules is to set forth the process and procedures for calculating a letter grade for each public school in accordance with Ark. Code Ann. § 6-15-2105.

3.1 DEFINITIONS

3.2 **Department** means Arkansas Department of Education.

3.3 **Four-Year Adjusted Cohort Graduation** Rate has the same definition as set forth in 34 C.F.R. § 200.19(b)(1)(i)-(iv).

3.4 **Non-mobile student** means a student continuously enrolled at a school from October 1 of the school year through and including the initial date of testing.

3.5 **"TAGG" (Targeted Achievement Gap Group)** includes students with membership in any or all of the following ESEA subgroups: Economically Disadvantaged, English Learners (EL), or Students with Disabilities (SWD).

3.6 **Value-Added Model (VAM).** A student growth model describes the change in student achievement over time. A student growth model becomes value-added when students' growth is attributed to a particular entity such as a classroom, a program, or a school, for example. There are many different VAMs. The VAM used for 2015 is a simple longitudinal student growth model that uses a students' score history (as many years of prior achievement as are available) to predict how that student will perform in the current year. The student's actual performance is compared to his/her predicted performance to provide a difference score (residual). The difference score, averaged at the school level, is considered the Value-Added Score (VAS) for the school.

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4.1 SCHOOL RATING SYSTEM

4.2 Effective with the 2014-2015 school year, each school will receive a letter grade score of "A," "B," "C," "D," or "F."

4.3 Each school's score will be calculated by the Department using the model set forth in Appendix "A."

4.4 If a school district has an Alternative Learning Environment (ALE) and the ALE has a Local Education Agency (LEA) number, the school district shall, for purposes of a letter grade assignment pursuant to these rules only, include the ALE students in their respective area schools.

4.5 Each school's score shall be published annually by the Department and by the school district, and shall be available on the Department's and school districts' websites.

Emergency Clause

Whereas, Ark. Code Ann. § 6-15-2105 requires each school toreceive a letter grade score of "A" through "F."

Whereas, Ark. Code Ann. § 6-15-2106 authorizes the Arkansas State Board of Education to adopt rules to establish the method for determining the letter grade for each school that takes into consideration levels of performance and improvement, and the State Board has done so in these rules.

THEREFORE, the State Board of Education hereby determines pursuant to Ark. Code Ann. § 25-15-204 that immediate peril to the welfare of Arkansas public schools and students will result without the immediate promulgation of these rules.

APPENDIX "A"

Model for Calculation of Overall School Scores for Determination of School Letter Grades

The 2015 A – F School Rating formula includes up to four components: *Weighted Performance Score*, *Growth Score*, Four-Year Adjusted Cohort Graduation Rate (where applicable)[1] and *Gap Adjustments* (where applicable). In addition to these components, schools may earn Challenge Points that are added to schools' overall score when applicable. The components of the Rating and the determination of Challenge points are explained in this appendix.

[1] Throughout this document, the term "graduation rate" refers to schools' Four---Year Adjusted Cohort Graduation Rate as calculated by the Arkansas Department of Education.

School Performance Component—the Weighted Performance Score

Schools earn points toward the performance portion of their overall score through the *Weighted Performance Score*. Points are earned based on the number of students at each performance level. Schools earn the following points or credit based on students performance levels:

- Partial credit for students scoring at the lower performance levels,
- Full credit for students scoring at the performance level that represents meeting grade level expectations, and
- Bonus credit for students scoring at the performance level that represents exceeding grade level expectations.

Bonus credit is earned for the number of students exceeding grade level standards that is greater than the number of students at the lowest performance level (did not meet standards). For the number of students at the exceeding standards performance level that is less than or equal to the number at the lowest performance level, the school earns a full credit for each student at the exceeding standards performance level.

Test Scores and Students Included in the *Weighted Performance Score*

Grades 3 through 8 and high school required state assessments in Math and ELA are used in the *Weighted Performance Score.* For 2015 these assessments included the PARCC Math (Gr. 3 – 8) exams, PARCC Algebra 1 and Geometry End of Course exams, PARCC ELA (Gr. 3 – 10) exams, and the NCSC Math and ELA exams (Grades 3 – 8, & 11).

Highly mobile students are excluded from the *Weighted Performance Score*.

Student Performance Levels and Points Earned

The PARCC Exams and the NCSC Exams have two different sets of performance levels to represent students level of achievement relative to grade level standards. The following table indicates the performance levels for each exam and the points earned for those levels.

PARCC Performance Levels	Points Earned		NCSC Performance Levels	Points Earned
PL 1	0.00		**PL 1 where Scale Score = 1200 (raw score of 0)**	0.00
PL 2	0.50		**PL 1 where Scale Score > 1200**	0.50
PL 3	0.75		**PL 2**	0.75
PL 4	1.00		**PL 3**	1.00
PL 5 for the # of PL 5 students < = # of PL 1 students	1.00		**PL 4 for the # of PL 4 students < = # of PL 1 students where Scale Score = 1200**	1.00
PL 5 for the # of PL 5 students > # of PL 1 students	1.25		**PL 4 for the # of PL 4 students > # of PL 1 students where Scale Score = 1200**	1.25

To get the total Weighted Performance Score (WPS) add all points earned for students in math and ELA, divide by the number of nonmobile students with test scores in math and ELA, and multiple by 100 to determine the total points earned. The WPS equation is below. *N* represents the number of nonmobile students in math and ELA at that performance level).

$$WPS = \frac{(0 * N_{PL1}) + (0.50 * N_{PL2}) + (0.75 * N_{PL3}) + (1.00 * N_{PL4}) + (1.00 * N_{PL5\ (\#PL5 \le \#PL1)}) + (1.25 * N_{PL5(\#PL5 > \#PL1)})}{Number\ of\ NonMobile\ Student\ Test\ Scores\ in\ Math\ and ELA} * 100$$

School Improvement or Growth Score

The transition between Arkansas's Benchmark, EOC, and Alternate Portfolio Exams to the PARCC and NCSC exams limits the options for the school improvement component of the Rating in 2015. Direct comparisons of schools' prior performance (% proficient on Arkansas standards) to current performance (% meeting college and career ready grade level standards) are not appropriate. Also, the transition in assessments meant that baseline data were not available to set improvement targets for 2015. Despite these limitations, stakeholders indicated a high value for including a growth or improvement component in the A---F school rating. Options for calculating growth during transitions in assessments are available using several statistical methods.

Stakeholders were consulted through a series of meetings over several years to learn about and evaluate the use of a student---level growth model during the transition from Arkansas Benchmark Exams to the new exams that assess students' college and career readiness. Simply stated, a student growth model describes the change in student achievement over time. A student growth model becomes *value---added* when students' growth is attributed to a particular entity such as a classroom, a program, or a school, for example.

Two value---added methods were modeled and presented to stakeholders: the Student Growth Percentile (SGP) and a longitudinal student growth Value---Added Model (VAM). There are many different VAMs. The VAM referenced here simply uses a students' score history (as many years of prior achievement as are available) to predict how that student will perform. The student's actual performance is compared to hi/hers predicted performance. The difference is considered *value---added*.

Both models may be used across different tests because both models assess and describe student growth in a relative manner, rather than in a criterion---refernced manner (growth toward a particular standard). In addition, both models provide student level growth values that can be aggregated to various levels to communicate about typical student growth in classroom, grade, or school, for example.

These models differ in how students' relative growth is measured and described by resulting the growth score. Scores from these two models answer slightly different questions about student growth.

- SGP answers the question—How much did this particular student grow compared to other students who performed like this student in prior years (students with similar score histories)?
- The longitudinal growth VAM answers the question—How much did this student grow compared to how much we thought the student would grow based on what we know about this student's performance in prior years (the student's score history)?

The results of both models correlate very highly, meaning they lead to similar conclusions about student growth, thus leaving the choice of one model over the other to other considerations. The VAM was selected based on policy considerations such as which question about student growth is meaningful to students, parents, teachers, and other stakeholders. Another consideration was the flexibility to easily accommodate additional data about the student and other factors or entities that impact the student in the event that VAM is used for TESS, LEADS, and school accountability.

Value---Added Scores for Student Growth

VAM scores for schools growth are based on student level growth. VAM assesses "student growth" relative to the student's *individual score history and the student's expectation of growth (predicted score)*. It reflects the difference between the observed performance and the performance expected (predicted) for each student in a group of students. The computation of the students' Value---Added Scores (VAS) which is the difference score (residual) is carried out in two steps.

In the first step, a longitudinal individual growth model is run to produce a predicted score for each student. The individual growth model uses as many years of prior scores for each student to maximize the precision of the prediction (best estimate) and accounts for students having different starting points (random intercepts). In VAM, each student's prior score history acts as the control/ conditioning factor for the expectation of growth for the individual student.

In the second step the student's predicted score in 2015 is subtracted from his/her actual score for 2015 to generate the student's value---added score (Actual – Predicted = VAS). Values of VAS indicate the degree to which students did not meet, met, or exceeded expected growth in performance.

- If the student has a VAS with a positive value the student's performance exceeded expectations for the year. The student had higher than expected growth. The greater the value above zero, the more the student exceeded expectations.
- If the student has a VAS value of zero the student's performance met expected performance. The student grew at least as much as expected.
- If the student has a VAS with a negative value the student did not meet expectations for growth in performance for the year meaning the student did not grow as much as expected in achievement. The lower the value of the VAS, the larger the degree to which the student did not grow as much as expected.

VAS for School Growth

Student VAS are averaged for each school to provide a school---level VAS. School VAS indicate, on average, the extent to which students in the school grew compared to how much we thought they would grow based on how they had achieved in the past.

- School VAS answers the question—On average, did students in this school meet, exceed, or not meet expected growth?

School VAS scores in math and ELA are averaged to produce a value that describes the average student growth for the school across both subjects. Before school VAS can be included in the A---F school rating the values must be transformed to a scale that will work within the total point scale for the rating system. The VAS were transformed using the equation below.

School Growth Score = (school VAS*35) + 80.85

School growth scores are capped so that the minimum school growth score is 70 and the maximum school growth score is 95.This transformation places schools whose students are meetng expected growth on average (VAS ~ 0) at 80.85. Thus, for this transition year, only schools with less than expected average growth values score a C value for this component.

Four---Year Adjusted Cohort Graduation Rate

Schools with at least 25 expected graduates may earn points for their graduation rate. The All Students four---year adjusted cohort graduation rate is added to the Overall School Score for schools with at least 25 expected graduates. These rates are calculated by the ADE. The graduation rate used in accountability determinations usually lags one year behind the year of the test scores used in the accountability determinations.

Adjustments for Achievement Gaps and Graduation Gaps

A school's numeric scores in Weighted Performance and Graduation Rate are adjusted for the size of a school's performance and/or graduation rate gap between TAGG and non---TAGG subgroups within each school. This adjustment can result in schools earning a bonus if the gap is relatively small, a penalty if the gap is relatively large, or no change if the gap is average.

Note: Schools that do not have a TAGG or non---TAGG group of 25 or more students (i.e., do not have a within---school achievement gap) are given a zero for Gap Adjustment.

- A school's achievement gap is the difference between the percentage of TAGG and non---TAGG students meeting or exceeding standards in math plus literacy.
- A school's graduation rate gap is the difference between the TAGG and non---TAGG graduation rates.

Achievement Gap Adjustment

The achievement gap is measured at the school level using the percentage of students meeting or exceeding grade level standards (Levels 4 and 5 for PARCC; Levels 3 and 4 for NCSC).

$$Achievement\ gap\ =\ NonTAGG\ \%\ Meeting\ or\ Exceeding\ -\ TAGG\ \%Meeting\ or\ Exceeding$$

All schools with at least 25 tested students in each category (non---TAGG and TAGG) are then ordered on the size of each school's gap, from those with the largest percentage point gap to those with the smallest. Schools with the largest gaps earn a penalty. Schools with the smallest gaps earn a bonus. Schools with typical gap sizes receive a zero or no adjustment.

Gap Adjustments are determined by dividing the ordered list of all schools with achievement gaps into five groups or quintiles with equal numbers of schools in each group. Based on this classification, *Gap Adjustments* for achievement are assigned. The table below provides the gap sizes and gap adjustments for 2015.

	Largest Gap	**Larger Gap**	**Average Gap**	**Smaller Gap**	**Smallest Gap**
Gap Adjustment	**---6**	**---3**	**0**	**+3**	**+6**
Achievement Gap Range	30.64% or greater	24.43---30.63%	19.79---24.42%	14.88---19.78%	Less than 14.88%

Round the school achievement gap to the nearest hundredth before comparing the values in the table.

Graduation Rate Gap Adjustment

The graduation rate gap is measured at the school level using the difference in graduation rates between a school's non---TAGG and TAGG student populations.

$$Graduation\ Rate\ Gap\ =\ NonTAGG\ \ Graduation\ Rate\ -\ TAGG\ \ Graduation\ Rate$$

All schools with at least 25 expected graduates in each category (non---TAGG and TAGG) are then ordered on the size of each school's gap, from those with the largest percentage point gap to those with the smallest. Schools with the largest gaps earn a penalty. Schools with the smallest gaps earn a bonus. Schools with typical gap sizes receive a zero or no adjustment.

Schools with graduation rates but with too few non---TAGG or TAGG students (< 25) to be eligible for a penalty or bonus are given a score of 0. *Gap Adjustments* for graduation rate are determined by dividing the ordered list of all schools with graduation rate gaps into five groups or quintiles with equal numbers of schools in each group. Based on this classification, *Gap Adjustments for graduation rate* are assigned. The table below provides the gap sizes and gap adjustments.

	Largest Gap	**Larger Gap**	**Average Gap**	**Smaller Gap**	**Smallest Gap**
Gap Adjustment	**---6**	**---3**	**0**	**+3**	**+6**
Graduation Gap Range	16.21% or greater	10.75---16.20%	6.90---10.74%	3.66---6.89%	Less than 3.66%

Round the school graduation gap to the nearest hundredth before comparing the values in the table.

Challenge Points

Schools earn extra points for current year performance when the performance of students in the school exceeds the expected performance considering the schools' level of challenge. A simple statistical analysis of covariance is used to determine schools' performance (% meeting or exceeding grade level standards) adjusting for schools' level of challenge based on the schools' poverty rate as measured by the percentage of students economically disadvantaged. The challenge points are calculated separately for math and ELA. The points are based on the difference between expected current year school performance considering the school's level of challenge and the actual current year school performance. If the difference is positive the school outperformed expectations and earns Challenge Points.

- Schools receive 3 Challenge Points for math and/or ELA if the school has a positive difference that is in the top quartile among all schools.
- Schools receive 2 Challenge Points for math and/or ELA if the school has a positive difference that is in the third quartile among all schools.

Challenge points provide schools with an opportunity to earn extra points for outperforming expectations.

Overall Score Calculation

A school's overall score is calculated by applying the gap adjustment to Weighted Performance and/or Graduation Rate and summing over all the components as indicated below. Schools without graduation rates receive a multiplier to put all schools' overall scores on a scale of 300 possible points.

Schools with graduation rate:

$$Overall\ school\ score = (Weighted\ Perf. + Gap\ Adj.) + (Improvement) + (Grad\ Rate + Gap\ Adj) + (Challenge\ Points\ in\ Math\ \&or\ ELA)$$

Schools without graduation rate:

$$Overall\ school\ score\ = (1.5)(Weighted\ Perf. + Gap\ Adj.) + (1.5)(Improvement) + (Challenge\ Points\ in\ Math\ \&or\ ELA)$$

For schools without a graduation rate, both components of the overall score will be multiplied by 1.5 which puts the Overall School Score for these schools on the same possible points scale as schools with a graduation rate.

Applying Cut Scores to the Overall Score to Determine Letter Grades

Schools' final scores are calculated by summing its scores on each component. The sum of these scores is capped at 300 possible points. Letter grades will be assigned as follows.

A = 270 – 300 points
B = 240 – 269 points
C = 210 – 239 points
D = 180 – 209 points
F = Less Than 180 points